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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/809,106	03/16/2001	Hiroshi Yamada	010283	8939
38834	7590	11/04/2004	EXAMINER	
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036			TRUJILLO, JAMES K	
			ART UNIT	PAPER NUMBER
			2116	

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/809,106

**Applicant(s)**

YAMADA ET AL.

**Examiner**

James K. Trujillo

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. It is hereby acknowledged that the following papers have been received and placed of record in the file: Request for Reconsideration dated 9/7/2004.
2. Claims 1-9 are presented for examination.

### ***Claim Rejections***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. The rejections are respectfully maintained and reproduced infra for applicant's convenience.
5. Claims 1, 4, 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Georgiou et al., U.S. Patent 5,940,785 (hereinafter Georgiou) in view of Kenny et al., U.S. Patent 5,287,292 (herein after Kenny).
6. As to claim 1, Georgiou substantially taught the information device, as per claim 1, having means for supplying power to a plurality of its component, the information device characterized by comprising a device having plurality of components (functional units) whereby each of the components are monitored and detect peak-power condition and peak-power terminating condition. Georgiou further taught that the components would switch power modes (clock frequency is reduced) according to the detection [col. 4 lines 16-50].

Georgiou does not expressly disclose the other limitations as per claim 1.

Kenny substantially taught the information device, as per claim 1, having means for supplying power to a plurality of its component, the information device characterized by comprising:

- a. access monitoring (indirect measuring of temperature by counting clock and external bus cycles) means for monitoring information on access to a predetermined single one component (CPU) [col. 1 line 65 through col. 2 line 16 and col. 2 line 56 through col. 3 lines 19], and for detecting peak-power generating condition (threshold value which is measure of peak power) and peak-power terminating condition (allowing the CPU to run hot again) for the component [col. 2 lines 37-55 and col. 5 line 65 through col. 6 line 8]; and
- b. power-mode changing means for switching mode of power (cooling trigger 407), to the predetermined single component from a normal-power mode to a power-saving mode (reducing the clock speed) according the detected information from said access monitoring means on said peak-power generating condition (when excess heat is detected), and for switching the power mode from said power-saving mode to said normal-power mode according to detected information from said access monitoring means on said peak-power terminating condition [col. 2 lines 37-55, col. 5 line 64 through col. 6 line 23, col. 9 lines 21-36 and figure 4].

In summary, Kenny teaches a system having a circuit that has monitors accesses to the circuit and accesses within the circuit. Kenny then uses a counter to determine a peak-power condition. If a threshold of the counter is reached a peak-power condition is determined and the

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circuit will be forced to a power-saving mode (by reducing clocks). A peak-power terminating condition is then determined when the counter is below the threshold and the circuit is forced from the power-saving mode to the normal-power mode by increasing the clocks.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Georgiou by monitoring each of his components as taught by Kenny. It would have been obvious because Georgiou suggests that indirect measuring temperature using clock frequency using a frequency-based approach [col. 1 line 64 through col. 2 line 14]. Georgiou further teaches that his invention is not dependent upon using thermocouples. Furthermore, Kenny teaches that the access monitoring may be used as a substitute for the monitoring disclosed in Georgiou [col. 1 lines 47-64]. Specifically, Georgiou does not detail the implementation of the frequency-based approach. Kenny teaches using a frequency-bases approach by monitoring accesses. One of ordinary skill would have been motivated to modify Georgiou with the teachings of Kenny to implement the frequency-based approach. Further, Kenny teaches that his invention may be implemented in an integrated circuit already present in a system eliminating the need for the addition of thermocouples.

7. As to claim 4, Georgiou together with Kenny taught the information device according to claim 1 described above. Kenny further taught wherein said predetermined single one or a number of said components is a processor characterized in that said access monitoring means is configured for:

- a. finding use rate for the processor (determining what the temperature for operating conditions) [col. 2 lines 3-26, col. 3 lines 5-41 and col. 6 line 41 et seq.];

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b. detecting as the peak-power generating (converted to a count) condition the use rate surpassing a set value (count is greater than a threshold value) [col.5 line 64 through col. 6 line 14];

detecting as the peak-power terminating condition the use rate dropping below a set value [col.5 line 64 through col. 6 line 14].

8. As to claims 5 and 8, Georgiou together with Kenny taught the claimed information device therefore they also teach the claimed method and the recording medium.

9. Claims 2-3, 6-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Georgiou et al., U.S. Patent 5,940,785 (hereinafter Georgiou) and Kenny et al., U.S. Patent 5,287,292 (herein after Kenny) as applied to claims 1, 5 and 8 accordingly and in further view Applicants Admitted Prior Art (AAPA).

10. As to claim 2, Georgiou together with Kenny taught the information device according to claim 1, described above. Kenny further teaches an access monitoring means configured for detecting issuance of bus activity indicating peak-power generating condition and detecting issuance of bus activity to end status as peak-power terminating condition as set forth hereinabove. Kenny discloses a circuit that is used to monitor accesses on a bus.

Georgiou and Kenny do not expressly teach wherein said component is an information storage device or that a read/write status is indicated during the occurrence of spin-up in the information storage device.

AAPA teaches a computer system that would be an environment that would use devices as taught by Georgiou and Kenny [pages 1-7]. The computer system of AAPA includes an

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information storage device such as a hard disk drive for mass storage of data. An information storage device ordinarily has a circuit of its own to control read/write status. One of ordinary skill would also recognize that read/write status occur during spin up of such an information storage device. It would have been obvious to of ordinary skill in the art at the time of the invention to modify Georgiou and Kenny by implementing their teachings in a computer system of AAPA to monitor the read/write status to indicate the occurrence of a spin-up using the monitoring of the bus activity as taught by Kenny. Doing so would allow thermal management to be achieved when accessing the information storage device thereby reducing the heat in both the main CPU and information storage device.

11. As to claim 3, Georgiou together with Kenny taught the information device according to claim 1, described above. Georgiou and Kenny teach wherein one of the components is a processor (CPU). As set forth hereinabove Georgiou and Kenny taught wherein the processor switches from the normal-power mode to the power-saving mode and vice versa according to the detection.

Georgiou and Kenny do not expressly disclose wherein other components are an information storage device and liquid-crystal panel having a back light wherein the liquid crystal panel switches from the normal-power mode to the power-saving mode and vice versa according to the detection.

AAPA teaches a portable computer system that would be an environment that would use devices as taught by Georgiou and Kenny [pages 1-7]. The portable computer system of AAPA has an information storage device such as a hard disk drive for mass storage of data and has a liquid panel for a user interface.

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the liquid crystal panel to switch from the normal-panel to the power-saving mode and vice versa according to the detection by the access monitoring means as taught by Georgiou and Kenny. Liquid crystal panels have a control circuit, usually a processor, dedicated to controlling information to and from the panel. One of ordinary skill in the art would have recognized that reduction in power and heat would be achieved by applying the teaching of Georgiou and Kenny to the control circuit of AAPA.

12. As to claims 2-3, 6-7 and 9 Georgiou together with Kenny and AAPA taught the claimed information device therefore they also teach the claimed method and the recording medium.

#### ***Response to Arguments***

13. Applicant's arguments filed 7 September 2004 have been fully considered but they are not persuasive.

14. Applicants argue in substance that Kenny and Georgiou are not concerned with access monitoring for monitoring information on access to a single or a plurality of components. The examiner disagrees.

Kenny monitors information on accesses to a single or a plurality of components using indirect measuring of temperature by counting clock and external bus cycles as set forth hereinabove. Those of ordinary skill will understand that monitoring the activity of a bus is monitoring information on access to a single or a plurality of components because buses are used to connect components.



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15. Applicants argue in substance that Kenny and Georgiou are not concerned with access monitoring for monitoring information on access to a single or a plurality of components.

Specifically, applicants argue in substance that Georgiou fails to monitor information on access to a single or plurality of components. The examiner agrees. That is why reference to Kenny is relied upon to teach these features.

16. Applicants further argue that the monitoring activity of the integrated circuit as disclosed by Kenny is clearly *different* from the monitoring information on access to a single or a plurality of components. Specifically the applicants appear to argue in substance, on the first paragraph of page 3 of the remarks, as to the reasoning that the monitoring activity is of Kenny is different. The examiner does not disagree. However, the applicants do not appear to claim features that may make the monitoring activity distinguishable from that of Georgiou and Kenny.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., monitoring activity comprises monitoring an IO packet of the device driver of a magnetic disk etc., from the first paragraph of page 3 of the remarks) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

### ***Conclusion***

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James K. Trujillo whose telephone number is (571) 272-3677. The examiner can normally be reached on M-F (7:30 am - 5:00 pm) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James Trujillo  
October 28, 2004



REHANA PERVEEN  
PRIMARY EXAMINER  
11-1-04